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THOMAS HAY AND PLOUGHING BLOCKS

Peter Wilson

Introduction

The term 'ploughing blocks' was used by Tufnell (1966) to describe surface boulders that have travelled downslope faster than the surrounding soil material and, in so doing, have created a depression on their upslope side and/or a mound of soil at their downslope edge. They are solifluction features, and credit for their first recognition is attributed to Sernander (1905) (Tufnell, 1972; Reid & Nesje, 1988; Hall *et al.,* 2001). In the uplands of northern England, ploughing blocks had been termed 'gliders or gliding blocks' by Hay (1937, 1942). The definition provided by Hay: "a roll of turf pushed up in front of the bottom end of the block and a furrow behind the block running a few yards up the slope" leaves no doubt that these gliding blocks are the same as ploughing blocks. It is with Hay's recognition of gliding/ploughing blocks in the Lake District that this short note is concerned.

Intriguing photographs

Figure 1. Clifton Ward's glider
(from the Thomas Hay photographic archive).

Figure 2. George's glider (from the Thomas Hay photographic archive).

Although Hay did not show a picture of a gliding block in either of his papers that mention them (Hay, 1937, 1942) there are two glass-slide photographs of gliders among the collection of his field maps and slides made available to the late Richard (Dick) Clark in the 1990s. One of these slides carries the title 'Clifton Ward's glider', the other 'George's glider'; they are reproduced here as Figures 1 and 2 respectively. In Figure 1, the boulder seems to lack a frontal mound of soil and, because of the angle from which the photograph was taken, only a trace of an upslope depression can be seen. Part of a frontal mound is visible in Figure 2 and a shallow depression in which the walking stick has been placed can also be seen. Hay regarded both as gliding blocks.

An intriguing aspect of Figure 1 of relevance to the issue of primacy in recognition of the phenomenon is Hay's use of Clifton Ward's name in the title. Clifton Ward (1843-80) was one of the early Lake District geologists and published 22 papers on the district between 1870 and 1879 (Smith, 2001). An implication of Hay's title might be that Ward had identified gliding blocks during the course of his researches and had made particular reference to the boulder that Hay was to later photograph. If that were so, it would indicate the recognition of these types of boulders had occurred at least 25 years before the report published by Sernander (1905). However, an

examination of Ward's publications has failed to locate any such reference and therefore it is not (yet) possible to transfer the tag of scientific primacy from Sernander to Ward.

It might never be known why Hay titled the photograph in the way he did. His period of Lake District research did not overlap with that of Ward, the two could not have met in that context but Hay was clearly aware of Ward's work; his publications cite some of Ward's studies. Hay was encouraged in his Lake District research by J.E. Marr, Professor of Geology at St. John's, Cambridge; Marr had been a lecturer there when Hay was a student of mathematics (Clark, 2001). It is possible that Marr knew of Ward's recognition of gliding blocks and informed Hay of a specific example. Although Marr was clearly aware of the hillside surficial phenomena associated with soil temperature changes, only passing mention of their occurrence is made in his Lake District book (Marr, 1916, p.197).

The title of Figure 2 ('George's glider') is also intriguing, but less so than that of Figure 1. George may have been the dog shown on top of the boulder, or a fieldwork companion of Hay's but he only mentions having undertaken field excursions in the company of geologists Sydney Ewart Hollingworth and John Jerome Hartley, neither of whom were known as 'George'.

The locations at which the photographs were taken are not known but Hay's studies focussed largely, but not exclusively, on the fells to the east of Dunmail Raise. He lived for several of his retirement years in Glenridding and his primary description of gliding blocks is in his 1937 paper entitled 'Physiographical notes on the Ullswater area'. It may be assumed that Figures 1 and 2 were taken within that area.

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